

What is Claimed:

1. A process for the recording, storage, and playback of video data, comprising the steps of:
receiving broadcast video data;
encoding, using a first compression format, said video into a first encoded file;
storing said first encoded file on a storage device;
retrieving said first encoded file from the storage device;
re-encoding said first encoded file, using a second compression format, to create a second encoded file, wherein said second encoded file is smaller than said first encoded file;
storing said second encoded file on the storage device; and
decoding the second encoded file for playback.
2. The process of claim 1, wherein said first compression format is MPEG-2.
3. The process of claim 1, wherein said second compression format is H.264.
4. The process of claim 1, wherein encoding using said first compression format is performed substantially in real-time and encoding using said second compression format is performed in non-real-time.
5. The process of claim 1, wherein said re-encoding step uses some of the same processing resources that would have been used by the first encoding step if broadcast video data were being encoded or resources that would have been used by the decoding step when a file was being played back.
6. The process of claim 1, wherein a plurality of first encoded files are stored on said storage device and said re-encoding step includes the step of re-encoding said plurality of first encoded files into second encoded files in the order in which said first encoded files were recorded.
7. A process for the recording, storage, and playback of video data, comprising the steps of:
receiving digital video data encoded using a first compression format;
storing said received digital video data in a first encoded file on a storage device;
retrieving said first encoded file from the storage device;

re-encoding said first encoded file, using a second compression format, to create a second encoded file, wherein said second encoded file is smaller than said first encoded file;
storing said second encoded file on the storage device; and
decoding the second encoded file for playback.

8. The process of claim 7, wherein said first compression format is MPEG-2.
9. The process of claim 7, wherein said second compression format is H.264.
10. The process of claim 7, wherein encoding using said second compression format is performed in non-real-time.
11. The process of claim 7, wherein a plurality of first encoded files are stored on said storage device and said re-encoding step includes the step of re-encoding said plurality of first encoded files into second encoded files in the order in which said first encoded files were recorded.
12. A digital video recorder for recording, storing, and playing back video data, comprising:
 - a video input device that receives broadcast video data;
 - a first encoder that encodes, using a first compression format, said video into a first encoded file;
 - a storage device that stores said first encoded file;
 - a second encoder that re-encodes said first encoded file, using a second compression format, to create a second encoded file, wherein said second encoded file is smaller than said first encoded file; and
 - a decoder that decodes the second encoded file for playback.
13. The digital video recorder of claim 12, wherein said first encoder comprises an MPEG-2 format codec.
14. The digital video recorder of claim 12, wherein said second encoder comprises an H.264 format codec.
15. The digital video recorder of claim 12, wherein said storage device is a hard disk.

16. The digital video recorder of claim 12, wherein said first encoder and second encoder share data processing resources.
17. The digital video recorder of claim 12, further comprising a scheduler that schedules said second encoder to compress said first encoded file into said second encoded file when no broadcast video data is being received.
18. The digital video recorder of claim 17, wherein a plurality of first encoded files are stored on said storage device and said scheduler schedules re-encoding of said plurality of first encoded files into second encoded files in the order in which said first encoded files were recorded.
19. The digital video recorder of claim 12, wherein said storage device comprises a removable digital media and said second encoder re-encodes said first encoded file so that content of said first encoded file will fit onto the removable digital media.
20. A digital video recorder for recording, storing, and playing back video data, comprising:
 - a video input device that receives digital video data encoded using a first compression format;
 - a storage device that stores said received digital video data as a first encoded file;
 - an encoder that re-encodes said first encoded file, using a second compression format, to create a second encoded file, wherein said second encoded file is smaller than said first encoded file; and
 - a decoder that decodes the second encoded file for playback.
21. The digital video recorder of claim 20, wherein said encoder comprises an H.264 format codec.
22. The digital video recorder of claim 20, wherein said storage device is a hard disk.
23. The digital video recorder of claim 20, wherein a plurality of first encoded files are stored on said storage device, further comprising a scheduler that schedules re-encoding of said plurality of first encoded files into second encoded files in the order in which said first encoded files were recorded.

24. The digital video recorder of claim 20, wherein said storage device comprises a removable digital media and said encoder re-encodes said first encoded file so that content of said first encoded file will fit onto the removable digital media.